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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/830,200	04/22/2004	Tom H. Hill	THH-6/US	9030

7590

10/07/2005

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EXAMINER

FREJD, RUSSELL WARREN

ART UNIT	PAPER NUMBER
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2128

DATE MAILED: 10/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/830,200	Applicant(s) HILL ET AL.	
	Examiner Russell Frejd	Art Unit 2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

[Handwritten mark]

In re Application of: Hill et al.

Examination of Application #10/830,200

1. Claims 1-23 of application 10/830,200, filed on 22-April-2004, are presented for examination.

Claim Rejections under 35 U.S.C. § 112, 2nd Paragraph

2. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The dependency (12) appears to be a typographical error.

Claim Rejections under 35 U.S.C. § 101

3. 35 U.S.C. 101 reads as follows:
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title.
 - 3.1 Method claims 1-23 are rejected for reciting a process that is not directed to the technological arts. In regard to claim 1, this claim is directed at a method for selecting well construction equipment. To be statutory, the utility of an invention must be within the technological arts. *In re Musgrave*, 167 USPQ 280, 289-90 (CCPA, 1970). The definition of "technology" is the "application of science and engineering to the development of machines and procedures in order to enhance or improve human conditions, or at least to improve human efficiency in some respect." (Computer Dictionary 384 (Microsoft Press, 2d ed.1994)). The

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limitations recited in claim 1 contain no language suggesting that claim 1 is intended to be within the technological arts. However, please note the method steps of claim 1 recited as part of a "computer-implemented method" would be considered as directed to the technological arts. The same rejection and solution applicable to claim 1 is deemed by the examiner to be appropriate for the method of designing a drill string for claim 20 and its dependent claims.

Claim Rejections under 35 U.S.C. § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.1 Claims 1, are rejected under 35 U.S.C. 102(b) as being anticipated by the article authored by Wu, entitled *Model predicts drill pipe fatigue in horizontal wells*.

4.2 Wu discloses a computer model for predicting the endurance limit of drill pipe used in medium and short radius horizontal wells [p. 47], including:

establishing one or more operational objectives in the construction of a well bore segment (claims 1 and 20, step a)[p. 48, first col.];

determining limiting parameters of the well bore segment to be constructed (claim 1, step b)[p. 48, col. 2];

determining a selected first working parameter of a plurality of first components (claim 1, step c and claim 20, step b)[p. 52, first col.];

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determining a comparison factor (i.e. fatigue)(claim 1, step d and claim 20, step c)[p. 52, cols. 1-4];

comparing the comparison factors (claim 1, step e and claim 20, step d)[p. 52, cols. 1-4, especially col. 3 (i.e. different joint lengths)]; and

selecting a first component to best meet the operational objectives (claim 1, step f and claim 20, step d)[p. 52, cols. 3 and 4].

In regard to claims 2-4, the selection of working parameters and comparison of factors has been discussed in the rejection of claims 1 and 20 above.

In regard to claim 5, Wu discloses minimizing fatigue failure possibility [p. 53, col. 1].

In regard to claims 6 and 7, Wu discloses minimizing a fatigue in a curved wellbore section [p. 47, Figs. 1 and 2].

In regard to claim 8, Wu discloses an axial tensile load parameter [p. 47, Figs. 1 and 2].

Claim Objections

5. Claims 9-19 and 21-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response Guidelines

6. A shortened statutory period for response to this action is set to expire **3 (three) months and 0 (zero) days** from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02, 710.02(b)).

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6.1 Any response to the Examiner in regard to this non-final action should be

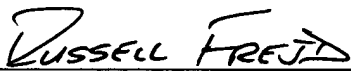
directed to: Russell Frejd, telephone number (571) 272-3779, Monday-Friday from 0530 to 1400 ET, **or** the examiner's supervisor, Jean Homere, telephone number (571) 272-3780. Inquires of a general nature or relating to the status of this application should be directed to the TC2100 Group Receptionist (571) 272-2100.

mailed to: Commissioner of Patents and Trademarks
P.O. Box 1450, Alexandria, VA 22313-1450

or faxed to: (571) 273-8300

Hand-delivered responses should be brought to the Customer Service Window, Randolph Building, 401 Dulany Street, Alexandria, VA, 22314.

Date: 30-September-2005



**RUSSELL FREJD
PRIMARY EXAMINER**